

## CLAIMS

1. A method for aiding stock investors in determining a timing for buying and selling stock securities, including a computer program for collecting and analysing historical stock security data including share price and associated volume data, wherein said data of each security are modelled by said computer program into a probability distribution of historical stock security data, wherein a confidence interval for a security price is determined on the basis of statistical mathematical formulae incorporated in said computer program, and in that said program, on the basis of a comparison between said probability distribution of said historical data and an actual security price provided to said computer program, thereby determining the relative location of said actual price in said probability distribution, provides a recommendation in the form of, at least effectively relating to, one of at least a "buy", a "sell" and a "hold" recommendation.

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2. A method according to claim 1, wherein said probability distribution of said historical stock data of a security is analyzed and modelled in accordance with a wave-like fluctuation of the stock price, having a determined wavelength and amplitude, preferably by the application of a Fast Fourier Transform (FFT) method performed by said computer program.

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3. A method according to claim 1, wherein the historical price data of a security are modelled into day prices by a recalculation of lowest and highest prices of a particular day together with opening and closing prices of that day into one effective day price ( $P_{eff}$ ), each said effective day price ( $P_{eff}$ ) component being incorporated in said calculation on a predetermined weighing basis.

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4. A method according to claim 1, wherein the historical stock data taken into consideration for the purpose of establishing a probability distribution are part of a history window selected backwardly in time from a most recent history point within a larger range of available historical stock security data, the history window being selected by an analysis of the historical security data using spectral analysis, preferably based on a Fourier transform, such that if the security price under consideration has rapid short term fluctuations of larger amplitude than the fluctuations of a long term period, a relatively short history

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window is automatically selected, whereas if security price fluctuations over a long term period show significantly larger amplitudes than the short term fluctuations do, a relatively long history window is automatically selected.

5. A method according to claim 1, wherein said historical data are modelled into a probability distribution, preferably one of a Gamma and Gaussian distribution, utilising mean and variance results of computer calculations on volume weighed effective day prices ( $P_{eff}$ ).

10. A computer program stored on a computer readable medium, configured for executing the method according to claim 1.

7. A computer executing, at least set immediately ready for executing, the computer program according to claim 6.

8. A data network service, in particular an Internet service, applying a method according to claim 1 on the basis of a risk level set by a user of said service through a data network interface with a computer program running said method.

15. 9. A data network service according to claim 8, wherein said service is arranged for providing a set of recommendations either directly or indirectly effective towards a selling, buying and holding of a particular stock security.

20. 10. A data network service according to claim 8, wherein required historical security data are updated at least daily, automatically by said computer program, for at least data of one stock exchange.

25. 11. A data network service made available to a public, e.g. a public including potentially interested stock investors, operating in data network service according to claim 8.

30. 12. A data network service relaying means, such as an Internet Provider, including a computer and, in particular, including an Internet providing arrangement, providing, at least relaying the computer program and/or service according to claim 6.

35. 13. A computer arranged for executing a method according to claim 1, for analysing stock data, wherein the following steps are performed periodically in a predetermined frequency, by said computer;

- the stock price and volume information of any stock

exchange listed securities are downloaded from a data network, e.g. via Internet,

1 - said stock price and volume information is transformed into appropriate numerical data for a statistical calculation thereof,

5 - said downloaded data is appended to a previous gathered data base of stock prices and volumes by said computer,

10 - a history window is determined for statistical modelling for each security of said downloaded data by a Fourier transform based spectral analysis,

15 - a wavelength of a most dominant frequency component as said history window in stock days is selected,

20 - said price and volume data is utilised to determine a probability distribution extending over said history window for each security,

25 - a P-value of the most current security price is calculated on the estimated probability distribution for each security,

30 - confidence limits of one of a predetermined and a true performance statistics history optimized risk level  $\alpha$  for each security are determined,

35 - said calculated P-value is utilised to categorize a recommendation of one of at least "buy", "sell" and "hold" for each security.

40 14. A computer implemented method according to claim 13, comprising the steps of:

45 - using said confidence limits as an additional information to said recommendation, viz. as "the highest price to buy" and "the lowest price to sell" limits,

50 - producing said calculated values for each security in a format suitable for a relevant representation.

55 15. A computerised investment timing management system which executes a method according to any of the previous claims, and serves the results in any format the clients' side requests, that can be provided over the Internet.